

CLAIMS:

1. A method of manufacturing an electroluminescent device comprising the steps of:

forming an anode of a positive charge carrier injecting material;

forming an anode protection layer on the anode of a protection material selected from the group comprising: polypyrroles and their derivatives; polythiophenes and their derivatives; polyvinylcarbazole (PVK); polystyrene; poly(vinyl pyridine); dielectric materials; carbon; amorphous silicon; non-indium containing conductive oxides including tin oxide, zinc oxide, vanadium oxide, molybdenum oxide and nickel oxide; and sublimed organic semiconductors;

forming a light emissive layer by converting a precursor to a polymer being a semiconductive conjugated polymer; and

forming a cathode of a negative charge carrier injecting material.

2. A method as claimed in claim 1, wherein the semiconductive conjugated polymer is selected from a class of polymers which release acidic by products during the conversion from the precursor polymer to the conjugated polymer.

3. A method as claimed in claim 1 or 2, wherein the anode comprises a transparent conducting layer deposited on a substrate of a glass or plastics material.

4. A method as claimed in claim 1 or 2, wherein the light emissive layer is formed from a homopolymer of poly(p-phenylene vinylene) (PPV).

5. A method as claimed in claim 1 or 2, wherein the light emissive layer is formed from an acetate based copolymer of PPV.

6. A method as claimed in any preceding claim, wherein the anode protection layer is formed from polyethylene

dioxythiophene/polystyrene sulphonate.

7. A method as claimed in claim 6, wherein the molar ratio of the anode protection layer is 1:1.2 PEDT/PSS.

8. A method as claimed in claim 6, wherein the molar ratio of the anode protection layer is 1:5 PEDT/PSS.

9. A method as claimed in any preceding claim, wherein a further layer is deposited between the anode protection layer and the light emissive layer to improve coating uniformity of the light emissive layer.

10. A method as claimed in claim 9, wherein the further layer comprises poly(vinyl pyridine) (PVP).

11. A method as claimed in any preceding claim, wherein a second light emissive layer is provided between the anode protection layer and the cathode.

12. A method as claimed in any of claims 1 to 5, wherein when the anode protection layer is formed of carbon, tin oxide or silicon it is formed by sputtering or evaporating.

13. A method as claimed in any preceding claim, wherein the thickness of the anode protection layer is between 10 and 500Å.

14. A method according to any preceding claim, wherein the thickness of each of the anode and light emissive layer is between 500 and 2000Å.

15. A method according to any preceding claim, wherein the anode is formed of ITO.

16. A method according to any preceding claim, wherein the cathode is formed of aluminium or an aluminium alloy.

17. An electroluminescent device comprising:

an anode formed of a positive charge carrier injecting material;

an anode protection layer on the anode formed of a protection material selected from the group comprising: polypyrroles and their derivatives; polythiophenes and their derivatives; polyvinylcarbazole (PVK); polystyrene; poly(vinyl pyridine; dielectric materials; carbon; amorphous silicon; non-indium containing conductive oxides including tin oxide, zinc oxide, vanadium oxide, molybdenum oxide and nickel oxide;

a light emissive layer formed of a semiconductive conjugated polymer; and

a cathode formed of a negative charge carrier injecting material.

18. A device as claimed in claim 17, wherein the thickness of the anode protection layer is between 10 and 500Å.

19. A device according to claim 17 to 18, wherein the thickness of each of the anode and light emissive layer is between 500 and 2000Å.

20. A device according to any of claims 17 to 19, wherein the anode is formed of ITO.

21. A device according to any of claims 17 to 20, wherein the cathode is formed of aluminium or an aluminium alloy.

22. A method of manufacturing an electroluminescent device comprising the steps of:

forming an anode of a positive charge injecting material;

forming a sacrificial anode protection layer over the anode;

depositing a precursor to a semiconductive conjugated polymer on the sacrificial layer;

converting the precursor to a semiconductive conjugated polymer to form a light emitting layer, during which conversion step the anode protection layer protects the anode from the

effects of the conversion and is itself consumed; and
forming a cathode of a negative charge injecting material.

23. Use of an electrode protection layer in the manufacture of an organic light emitting device to protect an electrode of the organic light emitting device from the effects of conversion of a precursor into a light emitting semiconductive conjugated polymer, wherein the organic light emitting device comprises first and second electrodes with the light emitting polymer being located between them.

24. An organic light-emitting device, comprising:
an electrode;
an organic light-emissive layer formed from converted organic precursor; and
an electrode protection layer formed between the electrode and the light-emissive layer so as to protect the electrode during conversion of the organic precursor.

25. A method of manufacturing an organic light-emitting device, comprising the steps of:
depositing an electrode;
depositing an electrode protection layer over the electrode;
depositing a layer of an organic precursor for a light-emissive material; and
converting the organic precursor into the light-emissive material;
wherein the electrode protection layer protects the electrode during conversion of the organic precursor.